REMARKS

Claims 1-17 are pending in the application. Claim 1 is amended to recite "a predetermined period of from 2.15 to 4.8 seconds when no breathing is detected", based on support, for example, on page 4, lines 8-11 and page 6, lines 13-16 of the specification as originally filed. No new matter is added.

Claims 15 and 16 are rewritten in independent form.

Entry of the amendment is respectfully requested along with reconsideration and review of the claims on the merits.

Formal Matter

Applicants appreciate that the Examiner acknowledged Applicants' claim for foreign priority, and further confirmed receipt of the certified copy of the priority document.

Provisional Double Patenting Rejection

Claims 1-17 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-12 of copending Application No. 09/956,924 or over claims 1, 4-10, 12, 14-22 and 24-32 of copending Application No. 09/956,925. This is a provisional double patenting rejection because the conflicting claims have not yet been patented.

Applicants respectfully request the Examiner to hold the provisional obviousness-type double patenting rejection in abeyance until one of the three co-pending applications is allowed.

Claim Objections

Claims 15-16 are objected to under 37 CFR 1.75(c), as failing to further limit the subject matter of a previous claim. Specifically, the Examiner considered that dependent claim 15 recites a controller which does not properly further limit the oxygen supply apparatus as claimed in claim 1. In addition, the Examiner considered that dependent claim 16 recites a recording medium which does not properly further limit the controller as claimed in claim 15 or the oxygen supply apparatus as claimed in claim 1.

Applicants respond by rewriting Claims 15 and 16 in independent form. As amended, claims 15 and 16 do not conflict with the requirements of 37 C.F.R. § 1.75(c).

Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection under 37 C.F.R. § 1.75(c).

Claim Rejections Under 35 U.S.C. § 103(a)

A. Claims 1, 2 and 6-14 are rejected under 35 U.S.C. §103(a) as assertedly being unpatentable over Sato et al. (US 4,681,099) in view of Mitchell et al. (US 5,590,648).

The Examiner cited Sato et al. as disclosing an oxygen supply apparatus which supplies oxygen or oxygen-enriched gas to a user having a breathing cycle, including an inhalation period and an exhalation period synchronously with breathing of the user, by means of a breath synchronization function according to Applicants' claimed invention.

Particularly, the Examiner considered that Sato et al. discloses an apparatus comprising all the limitations recited in claims 1, 2 and 6-14, with the exception of means for supplying the

oxygen or oxygen-enriched gas to the user over a predetermined period when no breathing is detected, and a sensor disposed at a breath detection port provided separately from an oxygen outlet - see present claim 7.

However, the Examiner cited Mitchell et al as teaching the use of a ventilator for supplying oxygen to a patient when sensor 20a indicates that breathing has stopped.

The Examiner has withdrawn the previous rejection of Claims 1, 2, 6 and 9-16 under 35 U.S.C. § 102(b) as being anticipated by Sato et al. In making new rejections under 35 U.S.C. § 103(a), the Examiner has also withdrawn a previous secondary reference to Salter in favor of the new Mitchell et al reference.

B. Claims 3-5 and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Sato et al. in view of Mitchell et al.

C. Claim 15 is rejected under 35 U.S.C. §103(a) as being anticipated by Sato et al. in view of Mitchell et al.

D. Claim 16 is rejected under 35 U.S.C. § 103(a) as being anticipated by Sato et al in view of Mitchell et al.

Applicants respond as follows.

Claim 1 is amended to recite means for supplying the oxygen or oxygen-enriched gas to the user over "a predetermined period <u>of from 2.15 to 4.8 seconds</u> when no breathing is detected".

The combination of Sato et al. and Mitchell et al. fails to render obvious the present invention as claimed. Sato et al. describes that when the duration of inhalation or exhalation

phase falls outside of the normal duration range (to be separately set), the breath-synchronizing solenoid valve 24 is immediately turned on so as to continuously supply the oxygen-enriched gas to the patient (see bridging columns 12-13). That is, the apparatus in Sato et al. supplies oxygen-enriched gas when the state of breathing cannot be accurately determined, but not when no breathing is detected as required by the present claims.

The "normal duration range" in Sato et al. is based on an average of six (6) consecutive sound inhalation durations at the start of operation (column 12, lines 41-57). That is, if the duration of inhalation or exhalation phase falls outside the normal duration range, which is separately set, then oxygen-enriched gas is continuously supplied to the patient.

Mitchell et al. discloses that the breathing rate monitoring module 20a can be utilized to monitor "apneic" episodes of the patient by comparing the patient's breathing rate against clock 44. The term "apneic" means "cessation of respiration". In that case, computer 12 increases the air pressure of the CPAP (continuous positive airway pressure device) when sensor 20a indicates that breathing has stopped. After breathing is restored to a normal rate, the CPAP returns to its normal setting under control of computer 12 (column 4, line 61-column 5, line 3). Thus, Mitchell et al discloses an increase in air pressure of the CPAP when the command center indicates that breathing has stopped which is not the same as supplying oxygen or oxygen-enriched gas to the user as required by the present claims.

The present invention differs from Sato et al. in that oxygen or oxygen-enriched gas is supplied to the user over a predetermined period (nominally, four (4) seconds and within a range of 2.15 to 4.8 seconds) when no breathing is detected.

Significantly, the present invention quickly comes to the aid of a patient when there is either a breathing anomaly or a malfunction in the sensor (page 4, lines 12-14 of the specification), which is not the case in Sato et al.

As to the rejection based on the combination of Sato et al. and Mitchell et al., the present invention contemplates supplying oxygen or oxygen-enriched gas to the user over a predetermined period when no breathing is detected, whereas Mitchell et al. simply describes that the CPAP returns to its normal setting after breathing is restored to a normal rate. That is, neither Sato et al. nor Mitchell et al. discloses supplying oxygen or oxygen-enriched gas over a predetermined period when no breathing is detected.

The above-noted difference over the prior art is clarified by amending the claims to recite a predetermined period of 2.15 to 4.8 seconds. As a result, a high degree of safety is secured without wasting oxygen or oxygen-enriched gas. To the contrary, Mitchell et al. simply teaches increasing air pressure of the CPAP until a normal state is restored (but discloses no predetermined period for supply of oxygen or oxygen-enriched gas when no breathing is detected), whereas as acknowledged by the Examiner, Sato et al. only makes provision for supplying oxygen-enriched gas when the state of breathing cannot be accurately determined, but not where no breathing is detected.

Applicants submit that dependent Claims 3-5 and 15-17 are patentable for the same reasons as given above.

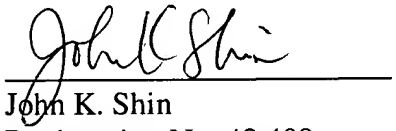
Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a), and allowance of claims 1-17.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



John K. Shin
Registration No. 48,409

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: August 26, 2004